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(54) Title: **PLEATED COSMETIC EFFERVESCENT CLEANSING PILLOW**

(57) Abstract: A wiping article is provided which includes an effervescent cleanser composition held within a sachet, at least one wall of the sachet including at least one pleat. The presence of pleats allows expansion room within the sachet to accommodate effervescent action. It also results in an ergonomically pleasant pillow configuration.



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PLEATED COSMETIC EFFERVESCENT CLEANSING PILLOW

The present invention relates to an effervescent foaming article for body cleansing that imparts a pleasant sensory  
5 feel to a user's skin.

Classically the process of cleansing skin has employed a surfactant composition. Sometimes an implement has been combined with the composition. Implements such as sachets  
10 serve multi-purposes. One function is as a delivery package for the surfactant. Sachets may also assist in generating foam. They further function as an abrasive assisting in cleansing the skin.

15 An early example of cleansing pad technology is found in U.S. Patent 1,808,834 (Busch Sr.). A fabric pouch is disclosed surrounding a cleansing composition mainly consisting of calcium and sodium carbonate.

20 U.S. Patent 4,234,442 (Cornelissens) describes a sachet which may consist of a water permeable material filled with an acidic and an alkaline constituent. Adipic, succinic and glutaric acids exemplify the acidic constituent. Sodium bicarbonate and carbonate represent the alkaline ingredient.

25 U.S. Patent 4,272,393 (Gergely) describes a cleaning article formed of a porous flexible substrate, especially a cellulosic paper, impregnated with detergent and a gas-generating system. The latter is formed by separating an  
30 acidic component such as citric acid from a basic component

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such as sodium carbonate in two separate areas of the substrate.

U.S. Patent 4,515,703 (Haq), U.S. Patent 4,600,620 (Lloyd et al.) and U.S. Patent 4,603,069 (Haq et al.) all describe wiping articles impregnated with surfactant. These do not contain any effervescent ingredients.

WO 97/43366 (Askew et al.) reports an effervescent system to improve dispensability of granular laundry detergent powders into wash water of automatic washing machines. Citric acid and bicarbonate combinations are employed to generate effervescence.

Most of the effervescent sachet technology has been directed at the cleaning of fabrics. Some of the publications have referred to personal care applications involving skin or hair. Yet there has been very little elaboration on sachet construction focused on the challenges of personal care applications. Unlike sachets thrown into a washing machine, personal care involves actual hand contact during the effervescent process. Sachets as they billow from the effervescent process fail to hold shape integrity. Under rubbing conditions they assume a nondescript, mushy pliable configuration. Effervescent gases also appear highly constrained to the confining space of the pre-activation dry volume.

It would be advantageous to provide a cleansing article such as a sachet which during effervescent activation maintains a

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relatively constant shape under conditions of rubbing against the skin.

It would also be advantageous to provide a cleansing article  
5 such as a sachet containing an effervescent system activated by contact with water wherein the article is constructed with expandable pocket areas to accommodate billowing from gas generation.

10 It would be further advantageous to provide a cleansing article such as a sachet which imparts a pleasant sensory feel in a user's hand, especially a toilet bar shape, at a time prior, during and after use against the skin.

15 It is to be noted that the subsequently described invention is broader than the objects or technical problems it is directed to solve.

A cosmetic article is provided for cleansing body surfaces,  
20 the article including:

a sachet having at least one water permeable wall, the sachet being sealed along all its perimeter, at least one pleat formed in at least one wall of the sachet; and

an effervescent cleanser composition positioned  
25 within the sachet.

Advantageously, the effervescent cleanser composition is in the form of an anhydrous dry solid having the composition including:

30 (i) from about 1 to about 80% of an alkaline material;

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- (ii) from about 0.5 to about 80% of an acid material; and
- (iii) from about 0.1 to about 30% of a surfactant.

5

Also provided is a method for cleansing skin involving wetting a cosmetic article with water, generating foam from the article and wiping skin surfaces with the wetted article, the article being a pleated sachet filled with the effervescent cleanser composition described above.

10

The above features, advantages and object of the present invention will more fully be appreciated through the following detailed discussion, reference being made to the drawings in which:

15

Fig. 1 is a perspective view of a first embodiment of the article according to the present invention;

Fig. 2 is a cross-sectional view along line 2-2 of Fig. 1 of the first embodiment;

20

Fig. 3 is a cross-sectional view of a second embodiment according to the present invention showing a multiplicity of pleats;

25

Fig. 4a is a plan view of an exterior surface of a single pleated wall of a sachet;

Fig. 4b is a plan view of an exterior surface of a two-pleated wall of a sachet; and

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- 5 -

Fig. 4c is a plan view of an exterior surface of a multiply-pleated wall of a sachet.

5   Cosmetic wiping articles of the present invention when contacted with water billow to many times (more than 10 but often more than 40 times) their dry size when activated by water. The effervescent cleansing system exudes copious amounts of lather. A plumped "pillow" arises from the  
10   effervescent action. By careful control of the acidic and alkaline components, a squeaky clean rinsed feeling is felt on a user's skin.

It has now been discovered that maximum billowing may be  
15   achieved by the use of one or more pleats on at least one of the walls that define the sachet. Pleats are preferably double folded segments of a wall pressed together in place with capacity for expansion to a volume greater than its original folded volume. Where the sachet is formed of two  
20   walls or sheets, preferably the at least one pleat will be formed on only one of those two walls. Advantageously, the non-pleated second wall is constructed of a material more rigid than the material forming the pleated first wall. Rigidity may be imparted in any of a number of ways. Where  
25   both sheets are of woven or non-woven fibers, the more rigid sheet may be formed of denser fibers, a greater number of fibers, extra fiber layers, different fiber material, different patterned arrangement or any combination thereof.

30   The more rigid sheet may also be achieved through different chemistry or binders, increased coating amount and

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- penetration, binding or bonding method and pattern, porous structure, physical texture and thickness, and degree of bonding. A particularly preferred combination is that the first, pleated wall is formed of a spun lace wood pulp polyester non-woven fabric while the rigid second wall is a polypropylene melt blown substrate. The number of pleats may range anywhere from 1 to about 200, preferably from 1 to about 50, optimally from 1 to about 20 per sheet.
- 10 Where the non-pleated wall is more rigid than the pleated one, the former functions to maintain a relatively non-billowing face of the article while allowing gaseous expansion on the opposite side of the article through the first pleated wall. It is much more ergonomically friendly
- 15 in a user's hand. Moreover, the combination of flexible and relatively rigid walls provides for easier grippability and prevents slippage from the grasp. A further advantage is that the billowed first wall can express cleansing surfactant against the skin while the more rigid wall can be
- 20 applied to areas requiring a rough surface to exfoliate skin.

At least one of the sachet walls must be water permeable. Suitable materials for forming the walls are rayon, polyester, polyethylene, polypropylene, cotton or any fiber combination thereof. These sheets may be woven or non-woven. Cellulosic paper fiber substrates are best not employed because of their insufficient wet-strength although they may be blended with other fibers referenced above; it

25

30 is important that the substrate sheets are not readily torn open through consumer rubbing of the article. Unlike

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laundry sachet articles, those of the present invention should not rupture which would cause dispersion of their granular contents into wash water. Rather it is intended for all cleanser composition components to exit by  
5 dissolution through the permeable walls of the sachet.

Figs. 1 and 2 illustrate a first embodiment of the present invention. Sachet 2 is formed of a first relatively flexible wall 4 and a relatively rigid wall 6. These walls  
10 are joined along their outer perimeters by a heat seal 10. Alternative sealing mechanisms could also be employed such as stitching or even forming both walls from a unitary substrate with the sealed perimeter merely being a fold. Wall 6 on its outer surface is patterned with a series of  
15 raised areas. These assist in gripping, improve rigidity and assist in exfoliation of the skin. An effervescent cleanser composition 12 is positioned within the pouch. Pleat 8 unfolds during effervescent action of the composition allowing for an outward expansion of wall 4 so  
20 as to provide more internal volume for expanding effervescent gases.

Fig. 3 illustrates a second embodiment wherein a flexible first wall 41 is pleated with numerous pleats 81. A backing  
25 or rigid second wall 61 is placed opposite the first wall. A heat seal 101 along the perimeter of the walls seals the pouch enclosing an effervescent cleanser composition 121.

Fig. 4a illustrates from an exterior view outward a wall of  
30 a sachet having a single pleat. In one manufacturing process, the pleat 8 is held in place by an adhesive tape 9



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during the sachet assembly process. The pleated wall is positioned over a non-pleated substrate dosed with a pile of cleanser composition and followed by heat sealing to enclose the composition within the juxtaposed substrates.

5 Thereafter the adhesive tape is removed. Fig. 4b is a view similar to that of Fig. 4a except illustrating multiple pleats 81 held in place for manufacturing purposes only by an adhesive tape 91. Fig. 4c is an external view of a pleated wall with the multiple pleats 81 being held for

10 manufacturing purposes only by a glue track 91. A further but un-illustrated method of maintaining pleats is use of spot welds at each end of the pleat.

A preferred embodiment of the present invention to achieve

15 effervescence is a combination of an alkaline material and an acid material. Thus, in the preferred embodiment a first component of compositions within the sachet is that of an alkaline material. The alkaline material is a substance which can generate a gas such as carbon dioxide, nitrogen or

20 oxygen, i.e. effervesce, when contacted with water and the acidic material. Suitable alkaline materials are anhydrous salts of carbonates and bicarbonates, alkaline peroxides (e.g. sodium perborate and sodium percarbonate) and azides (e.g. sodium azide). Preferably the alkaline material is

25 sodium or potassium bicarbonate. Amounts of the alkaline material may range from about 1 to about 80%, preferably from about 5 to about 49%, more preferably from about 15 to about 40%, optimally from about 25 to about 35% by weight of the total composition.

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In the preferred embodiment, a second important component within the sachet is that of an acidic material. Suitable for this purpose are any acids present in dry solid form. Especially appropriate are C<sub>2</sub>-C<sub>20</sub> organic mono- and poly-  
5 carboxylic acids and especially alpha-and beta-hydroxycarboxylic acids; C<sub>2</sub>-C<sub>20</sub> organophosphorus acids such as phytic acid; C<sub>2</sub>-C<sub>20</sub> organosulfur acids such as toluene sulfonic acid; and peroxides such as hydrogen peroxide. Typical hydroxycarboxylic acids include adipic, glutaric,  
10 succinic, tartaric, malic, maleic, lactic, salicylic and citric acids as well as acid forming lactones such as gluconolactone and glucarolactone. Most preferred is citric acid. Also suitable as acid material may be encapsulated acids. Typical encapsulating material may include water  
15 soluble synthetic or natural polymers such as polyacrylates (e.g. encapsulating polyacrylic acid), cellulosic gums, polyurethane and polyoxyalkylene polymers. By the term "acid" is meant any substance which when dissolved in deionized water at 1% concentration will have a pH of less  
20 than 7, preferably less than 6.5, optimally less than 5. These acids are preferably in solid form at 25°C, i.e. having melting points no less than 25°C. Concentrations of the acid should range from about 0.5 to about 80%, preferably from about 10 to about 65%, optimally from about  
25 20 to about 45% by weight of the total composition.

By the term "anhydrous" is meant the presence of no more than about 10%, preferably no more than 5% and optimally no more than 1% water by weight of the total composition.

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Water of hydration is not considered to be water for purposes of the anhydrous definition. However, it is preferred to minimize, preferably to eliminate any water of hydration.

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Advantageously the combined amount of acidic and alkaline materials will be at least about 1.5%, preferably from about 40 to about 95%, optimally from about 60 to about 80% by weight of the total composition.

10

Another preferred component of compositions according to the present invention is that of a surfactant, preferably a dry surfactant solid at 20°C. Most suitable for the present invention is sodium cocoyl isethionate. Other useful  
15 surfactants include sodium methyl cocoyl taurate and sodium lauryl sulfate. Surfactants may be of the anionic, cationic, nonionic, amphoteric, zwitterionic varieties and combinations thereof. Amounts of the surfactant may range from about 0.1 to about 30%, preferably from about 1 to  
20 about 30%, optimally from about 8 to about 15% by weight of the total composition.

A variety of skin benefit agents may be included to improve afterfeel properties. Advantageously these substances will  
25 be available as anhydrous dry powders. Alternatively these substances may be liquids deposited upon or into a powdered substrate (e.g. sodium bicarbonate or zeolite) to achieve a resultant dry flowing powder. Within the skin benefit agent scope are several categories of materials. These include  
30 emollients, antiaging actives, antibacterials and

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fungicides, skin lighteners, sunscreens and combinations thereof. Amounts of the skin benefit agents may range from about 0.001 to about 30%, preferably from about 0.1 to about 20%, more preferably from about 0.5 to about 10%, optimally  
5 between about 1 and about 5% by weight of the total composition.

Emollients may be in the form of natural or synthetic esters, silicone oils, hydrocarbons, starches, fatty acids  
10 and mixtures thereof. Typically the emollient may range in concentration from about 0.1 to about 35% by weight of the total composition.

Silicone oils may be divided into the volatile and  
15 nonvolatile variety. The term "volatile" as used herein refers to those materials which have a measurable vapor pressure at ambient temperature. Volatile silicone oils are preferably chosen from cyclic or linear polydimethylsiloxanes containing from 3 to 9, preferably  
20 from 4 to 5, silicon atoms.

Linear volatile silicone materials generally have viscosities less than about 5 centistokes at 25°C while cyclic materials typically have viscosities of less than  
25 about 10 centistokes.

Nonvolatile silicone oils useful as an emollient material include polyalkyl siloxanes, polyalkylaryl siloxanes and polyether siloxane copolymers. The essentially non-volatile  
30 polyalkyl siloxanes useful herein include, for example,

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polydimethyl siloxanes with viscosities of from about 5 to about 100,000 centistokes at 25°C. Among the preferred non-volatile emollients useful in the present compositions are the polydimethyl siloxanes having viscosities from about 10  
5 to about 400 centistokes at 25°C.

Among the ester emollients are:

(1) Alkenyl or alkyl esters of fatty acids having 10  
10 to 20 carbon atoms. Examples thereof include isoarachidyl neopentanoate, isononyl isonanonanoate, oleyl myristate, oleyl stearate, and oleyl oleate.

(2) Ether-esters such as fatty acid esters of  
15 ethoxylated fatty alcohols.

(3) Polyhydric alcohol esters. Ethylene glycol mono and di-fatty acid ester, diethylene glycol mono- and di-fatty acid esters, polyethylene glycol (200-6000) mono- and  
20 di-fatty acid esters, polypropylene glycol 2000 monooleate, polypropylene glycol 2000 monostearate, ethoxylated propylene glycol monostearate, glyceryl mono- and di-fatty acid esters, polyglycerol poly-fatty esters, ethoxylated glyceryl monostearate, 1,3-butylene glycol monostearate,  
25 1,3-butylene glycol distearate, polyoxyethylene polyol fatty acid ester, sorbitan fatty acid esters, and polyoxyethylene sorbitan fatty acid esters are satisfactory polyhydric alcohol esters.

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(4) Wax esters such as beeswax, spermaceti, myristyl myristate, stearyl stearate or arachidyl behenate.

5 (5) Sterols esters, of which cholesterol fatty acid esters are examples thereof.

(6) Triglycerides such as sunflower seed oil, maleated sunflower seed oil, borage seed oil or safflower oil.

10 Hydrocarbons suitable as emollients include petrolatum, mineral oil, isoparaffins and hydrocarbon waxes such as polyethylene.

15 Starches are also suitable emollients. Typical of this class is tapioca and arabinogalactan.

Fatty acids may also be suitable as emollients. The fatty acids normally have from 10 to 30 carbon atoms. Illustrative of this category are pelargonic, lauric, 20 myristic, palmitic, stearic, isostearic, hydroxystearic, oleic, linoleic, riconleic, arachidic, behenic and erucic acids.

Antiaging actives are useful as skin benefit agents. 25 Included within this category are vitamins, retinoids and combinations thereof. Amounts of these materials may range from about 0.001 to about 20% by weight of the total composition. Suitable vitamins include ascorbic acid, Vitamin B<sub>6</sub>, Vitamin B<sub>12</sub>, tocopherol as well as salts and C<sub>1</sub>- 30 C<sub>20</sub> esters thereof. Suitable retinoids include retinoic

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acid as well as its C<sub>1</sub>-C<sub>22</sub> esters and salts, retinol and C<sub>1</sub>-C<sub>22</sub> fatty esters of retinol including retinyl linoleate.

Another class of antiaging actives are the alpha- and beta-  
5 hydroxycarboxylic acids and salts thereof. Representative  
of this group are glycolic acid, lactic acid, malic acid,  
hydroxyoctanoic acid, salicylic acid and mixtures of these  
as well as their salts and lactone derivatives. Suitable  
salts are the alkalimetal, ammonium and C<sub>1</sub>-C<sub>10</sub> alkanol  
10 ammonium salts.

Antibacterials and fungicidals may be included as skin  
benefit agents. Representative of these categories are  
triclosan, tricloban, hexetidene, chlorhexadene, gluconates,  
15 zinc salts (e.g. zinc citrate and zinc phenolsulfonate) and  
combinations thereof.

Skin lighteners may be included under the skin benefit  
agents. Typical of this category are niacinamide, kojic  
20 acid, arbutin, vanillin, ferulic acid and esters thereof,  
resorcinol, hydroquinone, placental extract and combinations  
thereof.

Sunscreens may also be included as skin benefit agents.  
25 Particularly preferred are materials such as ethylhexyl p-  
methoxycinnamate, available as Parsol® MCX, and  
benzophenone-3, also known as Oxybenzone. Inorganic  
sunscreen actives may be employed such as microfine titanium  
dioxide, polyethylene and various other polymers. Amounts  
30 of the sunscreen agents will generally range from 0.1 to

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30%, preferably from 2 to 20%, optimally from 4 to 10% by weight.

Adjunct functional agents may be incorporated into compositions of the present invention. These include electrolytes, thickeners and mixtures thereof. Amounts of these substances may range from about 0.1 to about 20%, preferably from about 0.3 to about 10%, optimally between about 0.5 and about 5% by weight of the total composition.

10

Electrolytes may be selected from alkali, alkaline earth or ammonium salts of phosphates, silicates, halides, sulphates and mixtures thereof. Typical phosphates are potassium polymetaphosphate, sodium tripolyphosphate, sodium tetrapyrophosphate, sodium or potassium pyrophosphate and sodium hexametaphosphate. Most preferred is potassium polymetaphosphate available as Lipothix 100B® which is a 70:30 mixture of potassium polymetaphosphate and sodium bicarbonate, available from Lipo Chemicals, Inc., Paterson, New Jersey. Preferred sulphates are the magnesium sulphates.

Thickeners which may improve afterfeel properties on skin include inorganic or organic substances. A particularly preferred inorganic thickener is sodium magnesium silicate commercially available as Optigel SH®. Organic thickeners include alginic acid as well as sodium and calcium alginates, sodium carboxymethyl cellulose, hydroxypropyl methylcellulose, hydroxypropyl cellulose, hydroxyethyl cellulose and combinations thereof. Most preferred is

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alginic acid commercially available as Kelacid® from Sud-Chemie Rheologicals, Louisville, Kentucky. Alginic acid is highly effective at removing the slimy feel associated with deposits of alkaline material which are not fully rinsed  
5 away from the skin. Amounts of the thickener may range from about 0.1 to about 20% by weight of the total composition.

Polysaccharides useful in this invention are dry solid anhydrous substances such as sorbitol, sugars, (such as  
10 trehalose) starches, modified starches (e.g. aluminum octenyl succinate) and mixtures thereof. Most preferred is sorbitol.

Deposition aids may also be incorporated into compositions  
15 of the present invention. These assist in depositing skin benefit agents onto the skin surface. Particularly effective are cationic monomers and polymers for this purpose. Most preferred for purposes of this invention are cationic guar gums such as Jaguar C13S® which is guar  
20 hydroxypropyltrimonium chloride. Amounts of the deposition aid may range from about 0.01 to about 1%, preferably from about 0.05 to about 0.5%, optimally from about 0.1 to about 0.3% by weight of the total composition.

25 Advantageously an emotive agent such as a fragrance and/or botanical extract are included with the effervescent cleansing composition. Fragrances and botanicals are often liquids. For this reason it is necessary to uniformly distribute and allow absorption of liquid components into  
30 the solid powder. One method of best achieving this is to

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spray these liquids onto the solids. Amounts of the fragrance and/or liquid botanicals combined may be at levels from about 0.1 to about 3%, preferably from 0.5 to 2%, optimally from 0.8 to 1.5% by weight of the total composition.

The term "fragrance" is defined as a mixture of odoriferous components, optionally mixed with a suitable solvent diluent or carrier, which is employed to impart a desired odor.

10 Particular preferred odoriferous components are cyclic and acyclic terpenes and terpenoids. These materials are based upon isoprene repeating units. Examples include alpha and beta pinene, myrcene, geranyl alcohol and acetate, camphene, dl-limonene, alpha and beta phellandrene, tricyclene,

15 terpinolene, allocimmane, geraniol, nerol, linanool, dihydrolinanool, citral, ionone, methyl ionone, citronellol, citronellal, alpha terpineol, beta terpineol, alpha fenchol, borneol, isoborneol, camphor, terpinen-1-ol, terpin-4-ol, dihydroterpineol, methyl chavicol, anethole, 1,4 and 1,8

20 cineole, geranyl nitrile, isobornyl acetate, linalyl acetate, caryophyllene, alpha cedrene, guaiol, patchouli alcohol, alpha and beta santalol and mixtures thereof. Botanicals of particular use in the present invention include yarrow, chamomile, jasmine, lavender, horse

25 chestnut, sage, thyme, yucca, coltsfoot and mixtures thereof.

Preservatives can desirably be incorporated into the cosmetic compositions of this invention to protect against

30 the growth of potentially harmful microorganisms. Particularly preferred preservatives are phenoxyethanol,

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methly paraben, propyl paraben, imidazolidinyl urea, sodium dehydroacetate and benzyl alcohol. The preservatives should be selected having regard for the use of the composition and possible incompatibilities between the preservatives and  
5 other ingredients. Preservatives are preferably employed in amounts ranging from 0.01% to 2% by weight of the composition.

Colorants may also be included in compositions of the  
10 present invention. These substances may range from about 0.05 to about 5%, preferably between 0.1 and 3% by weight of the composition.

Skin surfaces against which articles of the present  
15 invention are useful include face, body, scalp, axilla and even legs/feet. When the article is a foot cleanser, it would be advantageous for the sachet on one of its sides to be coarse while a second of the sides may be soft and gentle. An abrasive non-woven flexible wall in a foot  
20 cleanser product is useful for rubbing against calluses while the second wall of the sachet remains smooth.

Articles according to the present invention may be formed in the following manner. In a preferred embodiment, a non-  
25 woven material is folded to form pleats by running the material through a folding device during or after non-woven manufacture. The pleats are held in place by adhesive tracks which can be a hot-melt glue or an adhesive tape. By way of example, first and second walls of a sachet are cut  
30 into a round or oval shape. The sachet is assembled by drawing a flat sheet of non-woven material onto a flat

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conveyer belt. Effervescent cleansing composition in dry solid form is dosed onto the sheet of material. Thereafter a section of pleated sheet is placed over the flattened sheet. Between the sheets a pouch is defined enclosing the effervescent cleansing composition. The pouch is then sealed along its perimeter. Cutters then separate one sealed section from another thereby forming the wiping article. Alternatively the cutting procedure may precede the sealing step. One or more of the wiping articles are then packaged within a moisture impermeable outer package such as a laminated foil bag or box to prevent activation of the effervescent system during storage.

In a preferred embodiment the non-woven material forming the pleated wall is constructed from wood pulp/polyester blend manufactured in a spun lace process, and available from the DuPont Company as Sontara® S-9911 type. Most preferred as the non-pleated relatively more rigid material for the opposite wall of the sachet is a polyester/nylon blend with acrylate binder available from Freudenburg Corporation under the Vilene trademark.

As an example, rigidity of the non-woven material forming the pleated wall can have a value ranging from about 110 to about 300, preferably from about 150 to about 210 in a machine manufactured direction and from about 10 to about 100, preferably from about 30 to about 50 in a cross machine direction. Rigidity is measured according to INDA (Association of the Non-Woven Fabrics Industry) standard test 90.0-75. Rigidity of the more rigid material for an opposite wall of the sachet may range from about 250 to

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about 800, preferably from about 400 to about 550 in a machine direction and from about 100 to about 300, preferably from about 200 to about 240 in a cross machine direction, with reference to the INDA standard test 90.0-75.

5

Ultrasonic welding may be employed as an alternative to heat-sealing of the first and second substrates together. Thread stitching, glue application or other closure mechanisms may also be utilized.

10

Effervescent compositions of the present invention preferably have all the components blended together. However, the invention may also be operative with multi-compartments or wherein the alkaline material and the acid material are stored separate from one another to avoid premature effervescence.

Except in the operating and comparative examples, or where otherwise explicitly indicated, all numbers in this description indicating amounts of material are to be understood as modified by the word "about".

The term "comprising" is meant not to be limiting to any subsequently stated elements but rather to encompass non-specified elements of major or minor functional importance. In other words the listed steps, elements or options need not be exhaustive.

The following examples will more fully illustrate embodiments of the present invention. All parts,

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percentages and proportions referred to herein and in the appended claims are by weight unless otherwise indicated.

**EXAMPLE 1**

5

An effervescent cleansing composition was prepared according to the formulation reported in Table I. Phase A was dry blended in a high speed shearing mixer. Fragrance was then sprayed onto the resultant powder as Phase B. Three grams  
10 of the resultant powder were then placed into a two inch by three inch non-woven rayon sachet formed with a single pleat. All sides were closed by double stitching with thread.

15 **TABLE I**

INGREDIENT	WEIGHT %
<b>PHASE A</b>	
Sodium Bicarbonate	34.5
Citric Acid (Anhydrous)	40.4
Sodium Cocoyl Isethionate (Powder)	11.6
Sodium Sesquicarbonate	5.0
Lipothix 100B® (Potassium Polymetaphosphate/Bicarbonate 70:30)	0.5
Optigel SH® (Sodium Magnesium Silicate)	1.0
Kelacid® (Alginic Acid)	1.0
Sorbitol	5.0
<b>PHASE B</b>	
Fragrance	1.0

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**EXAMPLE 2**

Another effervescent cleansing composition was prepared according to the formulation reported in Table II.

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**TABLE II**

INGREDIENT	WEIGHT %
PHASE A	
Sodium Bicarbonate	32.3
Citric Acid (Anhydrous)	41.1
Sodium Cocoyl Isethionate (Powder)	11.6
Sodium Sesquicarbonate	5.0
Lipothix 100B® (Potassium Polymetaphosphate/Bicarbonate 70:30)	0.5
Optigel SH® (Sodium Magnesium Silicate)	1.0
Kelacid® (Alginic Acid)	1.0
Sorbitol	5.0
Laracare A200® (Arabinogalactan)	1.0
Ascorbic Acid	0.5
PHASE B	
Fragrance	1.0

**EXAMPLE 3**

- 10 A face cleansing effervescent composition was prepared according to the formulation reported in Table III.

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**TABLE III**

INGREDIENT	WEIGHT %
<b>PHASE A</b>	
Sodium Bicarbonate	33.6
Citric Acid (Anhydrous)	39.0
Sodium Cocoyl Isethionate (Powder)	3.0
Sodium Methyl Cocoyl Taurate	6.0
Sodium Lauryl Sulfate	2.5
Sodium Sesquicarbonate	5.0
Lipothix 100B® (Potassium Polymetaphosphate/Bicarbonate 70:30)	0.5
Optigel SH® (Sodium Magnesium Silicate)	2.0
Tapioca	5.5
Methyl Gluceth 20-Benzoate	2.0
Guar Hydroxypropyl Trimonium Chloride	0.25
<b>PHASE B</b>	
Fragrance	0.65

**EXAMPLE 4**

5

A further effervescent cleansing composition was prepared according to the formulation reported under Table IV. Phase A was prepared by dry mixing of the ingredients in a high speed shear mixer. Three grams of resultant powder were placed into a two inch by three inch sachet of non-woven cotton polyester (50:50) formed with ten pleats on one side. The mesh size of the sachet walls was sufficient to allow transfer of dissolved ingredients. All sides of the sachet were welded by ultrasonic heat to insure against powder escaping from the sachet.

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TABLE IV

INGREDIENT	WEIGHT %
<b>PHASE A</b>	
Potassium Bicarbonate	29.5
Lactic Acid (Anhydrous)	45.3
Sodium Sulfosuccinate	11.6
Sodium Sesquicarbonate	5.0
Lipothix 100B® (Potassium Polymetaphosphate/Bicarbonate 70:30)	0.5
Optigel SH® (Sodium Magnesium Silicate)	1.0
Kelacid® (Alginic Acid)	1.0
Sorbitol	5.0
<b>PHASE B</b>	
Fragrance	1.0
Licorice Extract	0.1

5 EXAMPLE 5

A further effervescent cleansing composition was prepared according to the formulation reported in Table V. The ingredients were dry blended in a high speed shearing mixer.

10 Fragrance and herbal extract were sprayed onto the powder and further blended to achieve homogeneity. Three grams of the resultant powder were placed into a three inch diameter round sachet formed of non-woven polypropylene with one of the walls formed with 3 pleats. All sides were closed by

15 convection heat sealing along the perimeter thereof.

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TABLE V

INGREDIENT	WEIGHT %
<b>PHASE A</b>	
Sodium Bicarbonate	29.5
Citraconic Acid (Anhydrous)	45.4
Methyl Glucamide	11.6
Sodium Sesquicarbonate	5.0
Lipothix 100B® (Potassium Polymetaphosphate/Bicarbonate 70:30)	0.5
Optigel SH® (Sodium Magnesium Silicate)	1.0
Kelacid® (Alginic Acid)	1.0
Sorbitol	5.0
<b>PHASE B</b>	
Fragrance	0.9
Yarrow	0.1

5 EXAMPLE 6

A face cleansing effervescent composition was prepared according to the formulation reported in Table VI.

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TABLE VI

INGREDIENT	WEIGHT %
PHASE A	
Sodium Bicarbonate	32.3
Citric Acid (Anhydrous)	41.1
PHASE B	
Guar Hydroxypropyl Trimonium Chloride	0.4
Lipothix 100B <sup>®</sup>	0.5
Optigel SH <sup>®</sup>	2.0
PHASE C	
Sodium Cocoyl Isethionate	3.0
Sodium Methyl Cocoyl Taurate	6.0
Sodium Lauryl Sulphate	1.5
Sodium Lauroyl Sarcosinate	3.0
PHASE D	
Sodium Sesquicarbonate	4.0
Tapioca	4.7
Sorbitol	0.5
Fragrance	1.0

The foregoing description and examples illustrate selected  
5 embodiments of the present invention.

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CLAIMS:

1. A cosmetic article for cleansing body surfaces, the article comprising:
  - 5 a sachet having at least one water permeable wall, the sachet being sealed along all its perimeter, at least one pleat formed in at least one wall of the sachet; and  
an effervescent cleanser composition positioned within the sachet.
- 10 2. An article according to claim 1 wherein the pleat is a single pleat.
3. An article according to claim 1 or claim 2 wherein the  
15 at least one pleat ranges in number from 1 to about 50 pleats.
4. An article according to any one of the preceding claims wherein the sachet comprises opposite first and second  
20 walls, the second wall being non-pleated and formed of a material more rigid than that of the first wall.
5. An article according to any one of the preceding claims wherein the effervescent cleanser composition is an  
25 anhydrous dry solid comprising:
  - (i) from about 1 to about 80% of an alkaline material;
  - (ii) from about 0.5 to about 80% of an acid material; and
  - 30 (iii) from about 0.1 to about 30% of a surfactant.

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6. An article according to claim 5 wherein the composition further comprises from about 0.01 to about 30% by weight of a skin benefit agent selected from emollients, anti-aging actives, antibacterials and fungicides, skin lighteners, sunscreens and mixtures thereof.

7. An article according to claim 5 or claim 6 wherein the surfactant is sodium cocoyl isethionate.

8. An article according to any of claims 5 to 7 wherein the acid is citric acid.

9. An article according to any of claims 5 to 8 wherein the composition further comprises from about 0.01 to about 1% by weight of a deposition aid which is a cationic monomer or polymer.

10. A method for cleansing skin comprising wetting a cosmetic article with water, generating foam from the article and wiping skin surfaces with the wetted article, the article comprising:

a sachet having at least one water permeable wall, the sachet being sealed along all its perimeter, at least one pleat formed in at least one wall of the sachet; and

an effervescent cleanser composition positioned within the sachet.

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Fig.1.

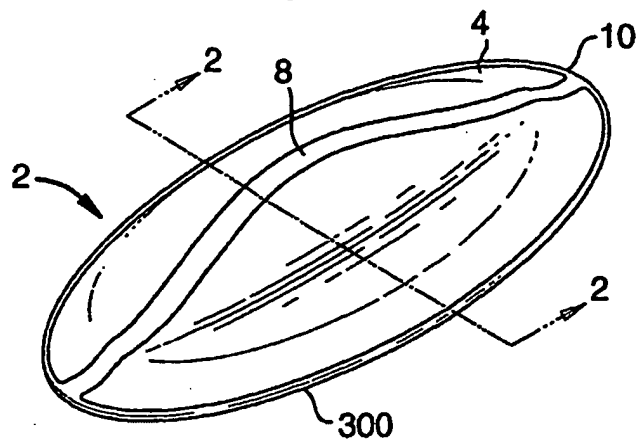


Fig.2.

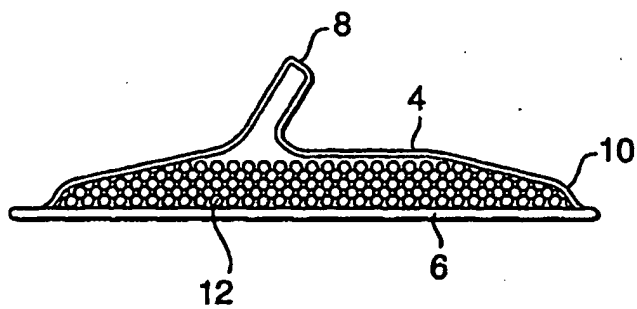
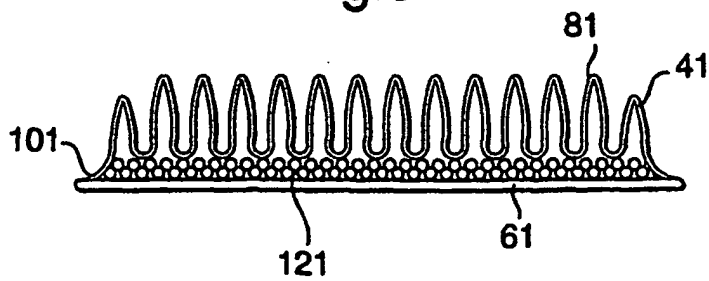


Fig.3.



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Fig.4A.

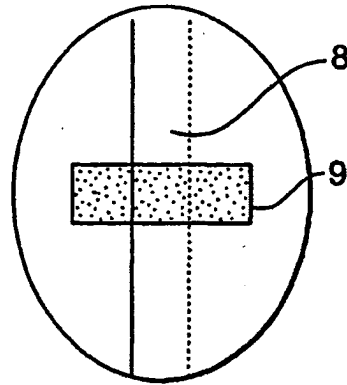


Fig.4B.

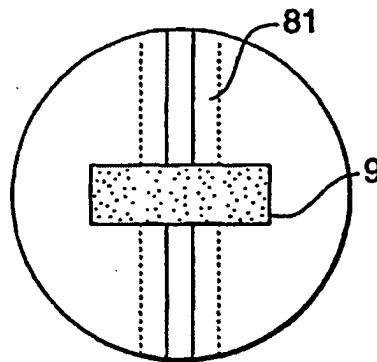
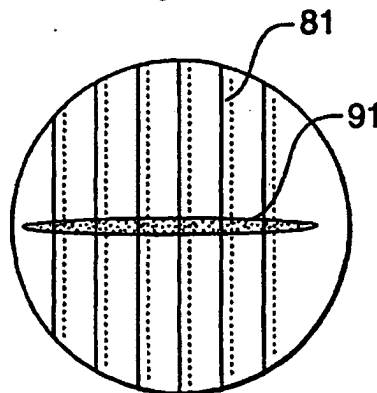


Fig.4C.



## PLT/EP 01/00113

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**EPO-Internal, PAJ**

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 2 560 649 A (W.H.D.HORNADAY) 17 July 1951 (1951-07-17) the whole document	1-10
A	PATENT ABSTRACTS OF JAPAN vol. 011, no. 232 (C-437), 29 July 1987 (1987-07-29) & JP 62 045519 A (KING KAGAKU KK), 27 February 1987 (1987-02-27) abstract	1,5-10
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

• Special categories of cited documents :

\*P\* document published prior to the international filing date but later than the priority date claimed

\*& document member of the same patent family

Date of the actual completion of the international search

**20 June 2001**

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28/06/2001

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# INTERNATIONAL SEARCH REPORT

In International Application No  
PCT/EP 01/00113

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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